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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,355	10/30/2001	Gregory V. Hofer	10016239-1	4968

7590 11/03/2004

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EXAMINER

VIEAUX, GARY

ART UNIT PAPER NUMBER

2612

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/002,355

Applicant(s)

HOFER ET AL.

Examiner

Gary C. Vieaux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11 and 15-26 is/are rejected.
- 7) ☒ Claim(s) 8, 9 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/26/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

**Claim 18** is objected to because of the following informalities: there is

5 insufficient antecedent basis for "the periodic rate". The claim will be examined as best interpreted by the examiner, using similar claims 1 and 4 in the interpretation.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

10 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 2, 4-7, 11 and 17-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (US #5,701,526) in view of Inuiya et al. (US #5,905,529.)

20 Regarding claim 1, in the Background of the Invention, Iwasaki teaches a method of detecting artificial illumination in a scene comprising predicting at least one frequency for a variation in the illumination in the scene (fig. 13A; col. 1 lines 44-46, where prediction of the frequency of illumination would be required in order to conduct photometry), measuring light from the scene at a periodic rate, where the periodic rate  
25 is different than any of the predicted frequencies, using an exposure length that is different than any of the periods of the predicted frequencies (fig. 13A; col. 1 lines 56-

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61), as well as discloses the need for calculation of the influence of flicker cycle (col. lines 56-58.) However, Iwasaki does not teach detecting the presence of an artificial illuminant when the measured light from the scene contains periodic changes.

Nevertheless, Inuiya teaches detecting the presence of an artificial illuminant  
5 when the measured light from the scene contains periodic changes (col. 12 lines 27-37.)  
It would have been obvious to one of ordinary skill in the art at the time of the invention  
to include the detection of an artificial illuminant as taught by Inuiya, with the method as  
taught by Iwasaki. One of ordinary skill in the art at the time the invention was made  
would be motivated to make this combination in order to correct effects of flicker, when  
10 determined to be present.

Regarding claim 2, Iwasaki and Inuiya teach all the limitations of claim 2 (see the  
103(a) rejection to claim 1 supra) including where the periodic changes are variations in  
brightness ('526 col. 1 lines 10-16 and 29-35; '529 col. 12 lines 27-29.)

Regarding claim 4, Iwasaki and Inuiya teach all the limitations of claim 4 (see the  
15 103(a) rejection to claim 1 supra) including where the periodic rate is close to, but not  
equal to, twice a common AC frequency ('526 fig. 13A; col. 1 lines 44-47.)

Regarding claim 5, Iwasaki and Inuiya teach all the limitations of claim 5 (see the  
103(a) rejection to claim 1 supra) including where the common AC frequency is 60 Hz  
( '529 col.30 lines 49-50.) Although the references directly address 50 Hz power  
20 sources, it would have been obvious to one of ordinary skill in the art at the time of the  
invention to have considered the common AC frequency to be 60 Hz as taught by  
Inuiya, with the method as taught by Iwasaki. One of ordinary skill in the art at the time

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the invention was made would be motivated to adapt the method to include 60 Hz as a common AC frequency in order for flicker detection to be applicable in areas/locations which use 60 Hz power sources instead of 50 Hz power sources. (The examiner also notes that Iwasaki also addresses 60 Hz as a common AC frequency, '526 col. 11 lines

5 55-57.)

Regarding claim 6, Iwasaki and Inuiya teach all the limitations of claim 6 (see the 103(a) rejection to claim 1 supra) including where the common AC frequency is 50 Hz ('526 col.1 lines 32-34.)

10 Regarding claim 7, Iwasaki and Inuiya teach all the limitations of claim 7 (see the 103(a) rejection to claim 1 supra) including where the exposure length is much smaller than 1/2 of any of the periods of the predicted frequencies ('526 fig. 13A.)

Regarding claim 11, Iwasaki and Inuiya teach all the limitations of claim 11 (see the 103(a) rejection to claim 1 supra) including where the exposure length is larger than 1/2 of any of the periods of the predicted frequencies ('526 col. 1 line 66 - col. 2 line 3.)

15

Regarding claim 17, the preferred embodiment of Iwasaki teaches an apparatus for detecting artificial illumination in a scene comprising a photo sensor array (figs. 2 and 3 indicator 9; col. 5 lines 48-55), the photo sensor array configured to measure light from the scene at a periodic frequency using a predetermined exposure time (figs. 7B- 20 7F; col. 8 lines 15-17); and a processor, the processor configured to examine the measured light from the scene (fig. 1 indicator 20; col. 5 lines 27-35.) However, the preferred embodiment does not directly disclose the processor configured to determine

the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations. Inuiya teaches determining the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations (col. 12 lines 27-37.) It would have been obvious to one of ordinary skill in

5 the art at the time of invention to configure the processor to determine the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations as taught by Inuiya, with the apparatus as taught by Iwasaki. One of ordinary skill in the art at the time of invention would have been motivated to combine these teachings to centralize the processing related to flicker detection, and later flicker  
10 correction.

Regarding claim 18 Iwasaki and Inuiya teach all the limitations of claim 18 (see the 103(a) rejection to claim 17 supra) including where the periodic rate is close to, but not equal to, twice a common AC frequency ('526 fig. 13A; col. 1 lines 44-47.)

Regarding claim 19, Iwasaki and Inuiya teach all the limitations of claim 19 (see  
15 the 103(a) rejection to claim 18 supra) including where the common AC frequency is 60 Hz ('529 col.30 lines 49-50.) Although the references directly address 50 Hz power sources, it would have been obvious to one of ordinary skill in the art at the time of the invention to have considered the common AC frequency to be 60 Hz as taught by Inuiya, with the method as taught by Iwasaki. One of ordinary skill in the art at the time  
20 the invention was made would be motivated to adapt the method to include 60 Hz as a common AC frequency in order for flicker detection to be applicable in areas/locations which use 60 Hz power sources instead of 50 Hz power sources. (The examiner also

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notes that Iwasaki also addresses 60 Hz as a common AC frequency, '526 col. 11 lines 55-57.)

Regarding claim 20, Iwasaki and Inuiya teach all the limitations of claim 20 (see the 103(a) rejection to claim 18 supra) including where the common AC frequency is 50

5 Hz ('526 col.1 lines 32-34.)

Regarding claim 21, the preferred embodiment of Iwasaki teaches an apparatus for detecting artificial illumination in a scene comprising: a photo sensor array, the photo sensor array configured to measure light from a scene at a periodic frequency using a predetermined exposure time (figs. 2 and 3 indicator 9; col. 5 lines 48-55; figs. 7B-7F); a

10 lens configured to focus the light from the scene onto the photo sensor array (fig. 2 indicator 1); and a processor, the processor configured to examine the measured light from the scene (fig. 1 indicator 20; col. 5 lines 27-35.) However, the preferred

embodiment does not directly disclose the processor configured to determine the presence of an artificial illuminant by examining the measured light from the scene for

15 periodic intensity variations. Inuiya teaches determining the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations (col. 12 lines 27-37.) It would have been obvious to one of ordinary skill in

the art at the time of invention to configure the processor to determine the presence of an artificial illuminant by examining the measured light from the scene for periodic

20 intensity variations as taught by Inuiya, with the apparatus as taught by Iwasaki. One of ordinary skill in the art at the time of invention would have been motivated to combine

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these teachings to centralize the processing related to flicker detection, and later flicker correction.

Regarding claim 22, Iwasaki and Inuiya teach all the limitations of claim 21 (see the 103(a) rejection to claim 18 supra) including where the periodic rate is close to, but not equal to, twice a common AC frequency ('526 fig. 13A; col. 1 lines 44-47.)

Regarding claim 23, the preferred embodiment of Iwasaki teaches an apparatus for detecting artificial illumination in a scene comprising: a means for measuring light from the scene at a periodic frequency using a predetermined exposure time (figs. 2 and 3 indicator 9; col. 5 lines 48-55; figs. 7B-7F.) Inuiya teaches means for determining the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations (fig. 17; col. 12 lines 27-37.) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Iwasaki with the teachings of Inuiya, in order to create an apparatus that can be employed in a camera for the correction of flicker due to artificial illumination, in relation to exposure control.

Regarding claim 24, Iwasaki teaches a camera comprising: a photo sensor array, the photo sensor array configured to measure light from a scene at a periodic frequency using a predetermined exposure length (figs. 2 and 3 indicator 9; col. 5 lines 48-55; figs. 7B-7F); a lens configured to focus the light from the scene onto the photo sensor array (fig. 2 indicator 1); and a processor, the processor configured to examine the measured light from the scene (fig. 1 indicator 20; col. 5 lines 27-35.) However, the preferred embodiment does not directly disclose the processor configured to determine the

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presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations. Inuiya teaches determining the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations (col. 12 lines 27-37.) It would have been obvious to one of ordinary skill in the art at the time of invention to configure the processor to determine the presence of an artificial illuminant by examining the measured light from the scene for periodic intensity variations as taught by Inuiya, with the apparatus as taught by Iwasaki. One of ordinary skill in the art at the time of invention would have been motivated to combine these teachings to centralize the processing related to flicker detection, and later flicker correction.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (US #5,701,526) and Inuiya et al. (5,905,529), in view of Smith et al. (US #6,501,518.)

Regarding claim 10, Iwasaki and Inuiya teach all the limitations of claim 1 (see the 103(a) rejection to claim 1 supra), except where the method further comprises determining the phase and frequency of the periodic changes with FFT analysis of the sampled light. Regardless, Smith teaches use a Fast Fourier Transform (FFT) analysis to determine both phase and frequency of the periodic changes (in relation to phase - col. 4 lines 23-31; in relation to frequency - col. 4 lines 64-67.) Given the teachings of Smith in relation to the method as taught by Iwasaki and Inuiya, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a FFT to determine the frequency of oscillation of the periodic changes in the measured light, as

well as the phase (zeros) in relation to the illumination flicker, order to allow for the correction of flicker, when detected.

### ***Double Patenting***

5           The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225  
10   USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double  
15   patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20           **Claims 1-7, 15-18, and 21-26** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 10-19, respectively, of copending Application No. 10/002,701. Although

the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application. The common subject matter as follows: with the exception of  
5 color correction, the relevant claims of the instant application are an analogous recitation of those found in application '701.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10

***Allowable Subject Matter***

**Claims 8, 9 and 12** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 8, the prior art is not found to teach or fairly suggest, individually  
15 or in combination, a confirmation of the actual frequency of the artificial illuminant by comparing the re-measured light for a reduction in the variability of the light intensity.

Regarding claim 9, the prior art is not found to teach or fairly suggest, individually  
or in combination, neither re-measuring the light from the scene using a periodic rate that is not an integer multiple of the chosen frequency nor determining the phase of the  
20 periodic changes by detecting the positions of the intensity variations.

5           **Claims 13 and 14 are allowed.**

Regarding claim 14, the prior art is not found to teach or fairly suggest,

15 **Conclusion**

Iwasaki (US #5,515,132) discloses a similar photometry apparatus.

20           Owaga et al. (US #5,053,871) discloses a method of flicker detection employing thresholds.

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**Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 703-305-9573. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

5 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

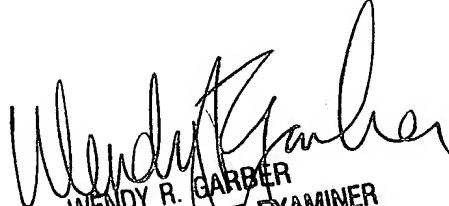
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10 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

15

Gary C. Vieaux  
Examiner  
Art Unit 2612

Gcv2

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